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GOVERNMENT OF ONTARIO
MINISTRY OF THE ENVIRONMENT

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about pesticides

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GUIDELINES FOR PROPER TREATMENT OF APARTMENT BUILDINGS TO CONTROL COCKROACHES

In the past decade, the German cockroach has become a major problem in apartment buildings. This species of cockroach has used the maze of water, electrical and heating systems along with cracks and crevices to inhabit all areas of apartment buildings. Cockroaches require hiding places, warmth, food and water to survive, making the modern apartment complex ideal for their existence. For the pest control servicemen the control of cockroaches can be very difficult due to the various human life styles in such buildings, the inability to access all areas and poor sanitation that may exist. Despite these difficulties, the pest control serviceman must become very knowledgeable on cockroach biology and habits, be aware of this pest's actual or potential resistance to insecticides and utilize an integrated approach to cockroach control.

Pest Control Serviceman's Qualifications

Exterminators working under a licenced pest control operator may treat a property with pesticides for cockroaches if licenced by the province of Ontario in accordance with the Pesticides Act. A Structural Class 3 Exterminator's licence allows the exterminator to treat all areas of an apartment building.

Superintendent's or Landlord's Qualifications

Under Section 54 of Ontario Regulation 751, an employee of the property concerned cannot apply pesticides in a tenanted apartment unless he holds an exterminator's licence. However, he can apply a Schedule 4 or 6 pesticide in the common areas of apartment buildings or non-rented suites without requiring an exterminator's licence. If a building superintendent wishes to apply pesticides in occupied suites, then he must hold a Structural Class 6 exterminator's licence endorsed for that specific property and for specific pesticides. A building superintendent or landlord does not require an operator's licence in order to hold an exterminator's licence.

Tenant's Qualifications

No licence is required by the tenant using a Schedule 3, 4 or 6 product in his or her own suite. The tenant should, however, advise the building superintendent of a cockroach problem in his or her suite.

Local Health Department's Role

The Public Health department has the authority under the Health Protection and Promotion Act to enforce the control of public health nuisance pests. The health inspector is available to inspect premises for cockroach infestations and can require a responsible person to control the problem. The local health department can also provide assistance for identification of public health pests.

The majority of apartment complexes in Ontario have contracts with pest control companies to keep cockroaches and other pests under control. Most companies service buildings on a monthly basis, spraying residual insecticides in common areas, garbage chutes, laundry rooms, etc. Many will also treat unrented suites, or suites in which a tenant has complained of insect activity to the superintendent. In an increasing number of instances, the entire building must be treated to control large populations of cockroaches. This procedure is called a "clean-out" and requires a vast amount of co-operation by all parties involved.

Preparation for a "Clean-out"

Landlord's or Superintendent's Responsibility:

1. Ensure all tenants are aware of date and time of clean-out.
2. Ensure all tenants have removed all material from all kitchen cupboards, counter areas and drawers, all linen cupboards, bathroom cabinets and vanity cupboards.
3. Ensure that the exterminator has access to all areas of the building, all ceiling areas, locker rooms and elevator shafts.
4. Ensure all suites can be readily and easily entered during the clean-out.
5. Maintain proper sanitary conditions in common areas.
6. Keep accurate records of all reported cockroach infestations, and make these available to the exterminator.
7. Ensure treatment of all surrounding suites, and not just the infested suite.
8. Ensure re-infestation is prevented by having a pest control company treat all vacant suites before re-occupation.

Tenant's Responsibility:

If a clean-out is organized the tenant must meet the requirements of the building management. The under-mentioned points must be followed if a proper job is to be done by the Pest Control Company employed:

1. Notify superintendent as soon as any cockroach activity is noticed.

2. All material must be removed from all cupboards, drawers and cabinets in the kitchen. All material must be removed from counter tops. Place this material in the centre of the room and cover with plastic or linen sheets. Discard the plastic after spraying. Wash linen sheets in a separate wash to everyday laundry.
3. All furniture must be moved away from walls to allow access to baseboards in all rooms.
4. All material must be removed from closet floors.
5. All material must be removed from the bathroom vanity cabinet and medicine cabinet.
6. All pets must be removed from the area when chemical is being applied. Any fish tanks should be covered by sheets or towels and air pumps shut off for 3-6 hours following treatment.
7. All accessory locks should be left unlocked if the tenant is out during the clean-out period.
8. Tenants should be advised to leave the suite for 3 to 6 hours. This stipulation is not mandatory, but is advisable because the presence of emulsions and solvents in the insecticide may release odours for several hours that cause health concerns to some people. Tenants should be advised to ventilate their premises following spray treatment. Treatment during winter months may require longer vacancy time by tenants.
9. Following treatment, cupboard shelves should be covered with shelf or waxpaper before articles are replaced. Residual insecticides should not be washed from shelf surfaces unless these surfaces are used in food preparation.
10. Sanitary conditions should be maintained to minimize cockroach harbourage areas.

Pesticide Applicator's Responsibility:

1. Identify cockroach species to ensure that proper treatment is given; due to varied habits the different species require different techniques of treatment.
2. Assume all responsibility for correct and safe handling of pesticides used by the company on the premises.
3. Provide the Landlord and/or Superintendent with written notices specifying that a clean-out will be carried out on a mutually agreed date. This form must outline all preparation requirements, must specify the product to be used, and provide details for the tenants' general information.
4. Treat the entire building in a manner recommended in the following guidelines.

Typical Procedure for Chemically and Mechanically
Treating an Apartment Building for Cockroaches by
the Licenced Pest Control Serviceman

1. Caution should be taken when mixing insecticides in areas of public use. It is strongly suggested that concentrate materials be placed in locked areas, if available, to prevent theft. The Pest Control Serviceman is responsible for the safety and handling of the pesticides used.
2. Holes should be drilled in all void areas, such as plumbing and electrical passages, to allow for residual dusting. Areas beneath kitchen and bathroom cabinets, and where sink pipes enter walls, should be dusted with a residual insecticide. Any other inaccessible voids should also be drilled and the resulting holes plugged after dusting.
3. To ensure adequate control the Pest Control Company should prepare a mapgrid diagram of the apartments in the complex. Problem suites should be marked out and special attention should be paid to these and surrounding suites.
4. When applying a residual insecticide from a compressed spray tank, the nozzle should be held as close to the crack or crevice as possible. This allows for deeper penetration, better accuracy, reduced possibility of contamination and reduced spray drift. The key to cockroach control is to apply a residual to all cracks and crevices, the hiding places of the cockroach. Obviously, the more cracks and crevices that receive a residual insecticide spray, the fewer breeding and habitat sites are available.
5. Cockroaches thrive well in the kitchen because it is the main food storage and preparation area and is usually associated with warmth and high humidity. The kitchen has many relatively inaccessible cracks and crevices beneath and behind counters that are hiding places for cockroaches.

The following list will assist in locating areas requiring treatment:

- (a) water pipe entrances into the wall beneath the sink.
- (b) all cracks and crevices along baseboards.
- (c) inside the lower and upper kitchen cabinets; behind cabinets where they join the wall; voids or cracks inherent in cabinet construction.
- (d) all return vents in kitchen ceilings.
- (e) behind and beneath appliances, especially refrigerator motors and oven clocks. (Unit should be unplugged and caution used when applying liquid insecticide near electrical outlets and equipment) Dust formulations

should be used if insecticide application is required in electrical boxes or equipment.

- (f) fume hoods, bottom drawers and kickplates of stoves.
- (g) crevices where upper cupboards are mounted on walls.
- (h) crevices where shelves meet the cupboard unit.
- (i) all garbage containers.
- (j) undersides of drawers, and inside crevices of cabinets.
- (k) cracks and crevices beneath the counter and where sink is sealed to counter.
- (l) inside any suspended ceiling.
- (m) around all window frames.

Since the German cockroach requires high humidity, the bathroom is often a significant harbourage area. By travelling beside the water pipes, electrical lines and heating ducts, the cockroach gains access to other suites. The Pest Control Serviceman should spray bathroom areas with a residual spray as follows:

- (a) all cracks and crevices beneath bathroom vanity units.
- (b) where pipes enter walls and run into counter unit.
- (c) crevices between toilet tank and wall, and between bowl and floor.
- (d) crevices behind mirrors, and voids inside medicine cabinets.
- (e) crevices in bathtub area where shower curtain rods enter wall brackets and where shower head and taps enter tile.
- (f) all baseboard areas and window frames.
- (g) all vents in ceiling areas.

Since apartment dwellers have varied life styles, food may be consumed in a variety of different rooms. All other rooms should, therefore, receive a residual spray to prevent movement of cockroaches to these areas.

The building owner or superintendent should seal cracks and crevices to reduce harbourage areas for cockroaches. The tenants may wish to do this on their own. Any caulking compound will prevent cockroaches from moving between suites. The use of sticky traps will assist in monitoring cockroach movements within the building.

The following insecticides are registered for cockroach control:

| ACTIVE INGREDIENT (Trade Name & Formulation) | SCHEDULE | % ACTIVE INGREDIENT |
|---|------------|-------------------------------------|
| Bendiocarb (Ficam W; WP) | 2 | 80% (to be used at 0.25%) |
| Bendiocarb (Ficam D; D) | 3 | 1% |
| Borax (Boric Acid; D) | 4 | 99%, 73% |
| Chlorpyrifos (Dursban, Fosban; EC) | 6 3 | 0.25%, 0.85 |
| DDVP (EC) | 3 | 0.9%, 1% |
| DDVP (F) | 3 2 | 5%, 10% 20% |
| Diazinon (encapsulated) (Basudin FM; M) | 2 | 0.25-1.0% |
| Diazinon (S) | 4 & 6 6 | 1% 0.5% |
| Diazinon (D) | 3 | 2% |
| Pyrethrin & Silica Aerogel (Drione; D) | 4 & 6 | 1% pyrethrin, 40% silica |
| Fenthion (S) | 4 | 0.5% |
| Hydramethylon (Maxforce, Impact; B) | 6 | 1.57% |
| Malathion (S) | 4 | 2% |
| Propoxur (Baygon; S) | 4 & 6 6 | 1% 0.5% |
| Propoxur (Baygon Bait) | 3 | 2% |
| Pyrethrins (Space; S) | 4 & 6 3 | 1% 3%, 5% |
| Pyrethrins (Contact) (S) | 4 & 6 | 0.2% |
| Pyrethrins (D) | 4 | Less than or equal to 1% |
| Pyrethrins (Sectrol; M) | 6 | 1.1% |
| Resmethrin (S) | 4 | 0.05% - 2% |
| Ronnel (S) | 4 & 6 | 1%, 0.1%, 2% |
| Silica Aerogel (D) | 4 & 6 | 40% |
| Sodium Fluoride (D) | 2 1 | 10% 27%, 39%, 70%, 75%, 80%, 95% |
| Sticky Roach Tape | - | - |

NOTE: Pesticide scheduling is based on toxicity, container size, and other variables. A tenant or homeowner can apply Schedule 3, 4 or 6 pesticides in their own premises without requiring an exterminator's licence. A landlord or building superintendent can apply Schedule 4 and 6 pesticides in non-rented suites and common areas without requiring an exterminator's licence. A structural exterminator's licence is required by a landlord or superintendent to apply pesticides in occupied suites. Use of schedule 1 and 2 pesticides are restricted to licensed exterminators.

S - solution
D - dust
B - bait

F - fumigant
WP- wettable powder

M - microencapsulated
EC - emulsifiable concentrate

